ANNUAL PROGRESS REPORT

SEATO Medic Study No. 29	Studies on Opisthorchis viverrini in Thailand Chemotherapy of Liver Fluke
Project No. 3A 025601 A 811	Military Medical Research Program S. E. Asia
Task 01:	Military Medical Research Program S. E. Asia
Subtask 01:	Military Medical Research Program SEASIA (Thailand)
Reporting Installation:	US Army-SEATO Medical Research Laboratory, APO 146, San Francisco, California. Division of Medical Research Laboratories Department of Medical Zoology
Period Covered by Report:	1 April 1963 to 31 March 1964
Principal Investigator:	Major Dale E. Wykoff, MSC
Associate Investigators:	Dr Prasert Setasubun* Dr Chamlong Harinasuta* Dr Kasem Jittayasothorn**
Assistant Investigator:	Mr. Keturat Sukavat
Reports Control Symbol:	MEDDH-288
Security Classification:	UNCLASSIFIED

* Bangkok School of Tropical Medicine
** Provincial Hospital, Udorn.

ABSTRACT

SEATO Medic Study No. 29	Studies on Opisthorchis viverrini in Thailand - Chemotherapy of Liver Fluke
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The purpose of this study is to test various drugs in order to determine their efficacy in the treatment of human O. viverrini infections. Only one drug has been completely tested and it was found to be non-effective. Further drug testing is underway in the Provincial Hospital, Udorn. There is no known effective treatment for this hepatic trematode.

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BODY OF REPORT

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Objective: The purpose of this study is to evaluate the efficacy of certain chemotherapeutic agents against human infections with O. viverrini.

Description: One chemical has been fully evaluated for possible treatment of the parasite. This was CI-350 (Propoquine) from the Parke Davis Company. Thirty volunteers were given 450 mg/day (if over 60 kg) or 300 mg/day (if 40-60 Kg). Twelve persons were given placebos. The day preceeding treatment

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replicate Stoll counts were made to determine the number of eggs per gram feces; a complete physical examination was carried out; a CBC was made together with the following tests; hemoglobin, hematocrit, bilirubin, cholesterol, esters, total protein, A/G, thymol turbidity, CCF, Zinc turbidity, alkaline phosphatase and SGOT, SGPT. A complete urinalysis was made. Seven days, 14, 21 and 28 days following treatment, each of the above tests was repeated. No further tests were undertaken until the 42nd day following treatment when again all tests were repeated. A Stoll egg count was also made 82 days following treatment.

Progress: Egg counts revealed that there was no significant reduction in the egg production as a result of treatment. While this indicates that the drug is valueless in the treatment of this specific parasite, it was noted that there was no untoward reaction to the drug indicated by physical examination, urinalysis, CBC or biochemical tests. A second interesting series of data also became available - the range and mean values of the physical, blood, and biochemical tests. Such a compilation has not been made previously in Thailand. It should be borne in mind that all examinees were infected with O. viverrini. The following is the mean value followed by the range: blood pressure D 79 (70-88), S 119 (109-133); hemoglobin 14.3 g% (12.3-15.9); hematocrit 44 (37-49); WBC 9029 (5557-15100); poly. 51 (34-62); lymph. 36 (27-53); mono. 0.1 (0-1.1); eosin. 11 (6-17); baso. 0.3 (0-.7); bilirubin one minute 0.4 mg% (0.19-0.65); bilirubin 30 minutes 0.8 mg% (0.41-1.6); cholesterol 183 mg% (98-322); esters 73 mg% (61-82); total protein 7.4 g% (6-8.3); A/G ratio 1.7:1, thymol turbidity 3.7 (1.9-5.9); zinc turbidity 18 (11.4-23); alkaline phosphatase 1.9 (1-3); SGOT 38 (28-87); SGPT 26 (10-64) and albumin 4.5 g% (3.6-4.9).

A second drug is now being tested but no data are yet available.

Summary: One drug has been fully tested and found to be without demonstrable effect against O. viverrini. Other drugs will be tested in the future. Ranges and means of liver function tests and differential blood counts are reported for the first time from a Thai population, but it must be remembered that all persons were infected with the liver fluke O. viverrini.

Conclusion: Because of the location of the parasite in the distal biliary passages, no effective non-toxic chemotherapeutic agent is yet known. Drugs will be continued to be tested in the Provincial Hospital of Udorn where all facilities are available in the SEATO branch laboratory.